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ABSTRACT

Preschool children, elementary school students, and adults participated in a study that examined various processes used to interpret contradictory communications. A screening test determined that all subjects were capable of discriminating between contradictory and congruent communications. Subjects were presented with contradictory verbal-facial messages in contextually impoverished and enriched conditions. Research in the area of ambiguous communications has suggested that preschoolers assume a one-to-one correspondence between the contents of a message and its meaning, and would therefore interpret contradictory communications by negating the contents of the verbal or facial cues. Older subjects, in contrast, were expected to interpret the communications by using available contextual information to validate the meaning of both verbal and facial message components. Thus, interpretations were expected to vary as a joint function of the subject's cognitive-developmental understanding of communication and the context in which specific communications were embedded. Findings confirmed these hypotheses. (Author/RH)

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Interpreting Contradictory Communications

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ABSTRACT

PRESCHOOL CHILDREN, GRADE SCHOOL CHILDREN AND ADULTS PARTICIPATED IN A STUDY THAT EXAMINED DIFFERENT PROCESSES USED TO INTERPRET CONTRADICTORY COMMUNICATIONS. A SCREENING TEST DETERMINED THAT ALL SUBJECTS WERE CAPABLE OF DISCRIMINATING BETWEEN CONTRADICTORY AND CONGRUENT COMMUNICATIONS. THE SUBJECTS WERE PRESENTED WITH CONTRADICTORY VERBAL-FACIAL MESSAGES IN CONTEXTUALLY IMPOVERISHED AND ENRICHED CONDITIONS. WORK IN THE AREA OF AMBIGUOUS COMMUNICATIONS SUGGESTED THAT PRESCHOOLERS ASSUME A ONE-TO-ONE CORRESPONDENCE BETWEEN THE CONTENTS OF A MESSAGE AND ITS MEANING, AND WOULD THEREFORE INTERPRET CONTRADICTORY COMMUNICATIONS BY NEGATING THE CONTENTS OF THE VERBAL OR FACIAL CUES. OLDER SUBJECTS, IN CONTRAST, WERE EXPECTED TO INTERPRET THE COMMUNICATIONS BY USING AVAILABLE CONTEXTUAL INFORMATION TO VALIDATE THE MEANING OF BOTH VERBAL AND FACIAL MESSAGE COMPONENTS. THUS, INTERPRETATIONS WERE EXPECTED TO VARY AS A JOINT FUNCTION OF THE SUBJECT'S COGNITIVE-DEVELOPMENTAL UNDERSTANDING OF COMMUNICATION (EG. DIRECT MESSAGE-MEANING CORRESPONDENCE), AND THE CONTEXT IN WHICH SPECIFIC COMMUNICATIONS WERE EMBEDDED (IMPOVERISHED OR ENRICHED). THE STUDY CONFIRMED THESE HYPOTHESES.

RATIONALE AND HYPOTHESES

PREVIOUS RESEARCH HAS SHOWN THAT PEOPLE OF DIFFERENT AGES COME TO DIFFERENT CONCLUSIONS WHEN ASKED TO INTERPRET CONTRADICTORY COMMUNICATIONS. THIS STUDY ADDRESSES HOW THESE DIFFERENCES ARE MEDIATED BY THE INDIVIDUAL'S COGNITIVE-DEVELOPMENTAL UNDERSTANDING OF COMMUNICATION, AND THE NATURE OF THE CONTEXT IN WHICH SPECIFIC COMMUNICATIONS ARE EMBEDDED.

IN GENERAL, CONTRADICTION MAY BE SAID TO EXIST WHEN THE PROPOSITIONAL CONTENTS OF SPECIFIC CHANNELS (E.G. FACIAL AND VERBAL) CONFORM TO THE FOLLOWING CONDITIONS:

(1) THE IMPLICATIONS OF THE TWO PROPOSITIONS ARE SUCH THAT IF ONE IS TRUE, THE OTHER IS FALSE.

(2 THE TWO PROPOSITIONS REFER TO A COMMON, SINGLE REFERENT (E.G. EVENT, OBJECT, PERSON).

(3) THE TWO PROPOSITIONS ARE ASSERTED TO APPLY JOINTLY AND SIMULTANEOUSLY TO THE REFERENT.

IT FOLLOWS THAT ANY ONE OF THESE PROCESSES MAY MEDIATE INTERPRETATIONS OF COMMUNICATIVE CONTRADICTION:

<u>LEVEL 1 -- CONTENT TRANSFORMATIONS</u>

(1) DENIAL: INFORMATION FROM ONE CHANNEL IS DENIED OR IGNORED, TRANSFORMING THE COMMUNICATION INTO ONE WITH A SINGLE PROPOSITION.

(2) DISTORTION: BOTH PROPOSITIONS ARE RETAINED, BUT THE MEANING OF ONE IS DISTORTED SO THAT IT AGREES WITH THE OTHER.

LEVEL 2 -- REFERENT TRANSFORMATIONS

(3) NO MESSAGE-REFERENT ASSOICATION: THE PROPOSITIONAL CONTENTS OF BOTH CHANNELS ARE RETAINED, BUT NEITHER IS MEANINGFULLY RELATED TO A REFERENT.

(4) ONE MESSAGE-REFERENT ASSOCIATION: BOTH PROPOSITIONAL CONTENTS ARE RETAINED, BUT ONLY ONE IS RELATED TO A REFERENT.

(5) SEPARATE MESSAGE-REFERENT ASSOCIATION: BOTH PROPOSITIONAL CONTENTS ARE RETAINED, BUT ARE RELATED TO SEPARATE, ISOLATED REFERENTS.

LEVEL 3 -- RELATIONAL TRANSFORMATIONS

(6) SEQUENTIAL: BOTH PROPOSITIONS ARE RELATED TO A REFERENT, BUT THE TEMPORAL CONDITIONS ARE ALTERED SO THAT EACH PROPOSITION APPLIES AT DIFFERENT POINTS IN TIME.

(7) CONTEXT EXPANSION: BOTH PROPOSITIONS APPLY SIMULTANEOUSLY TO DIFFERENT ASPECTS OF A SINGLE REFERENT.

IT HAS BEEN FOUND THAT YOUNG CHILDREN (5-7 YEARS OLD) RESPOND EQUALLY TO AMBIGUOUS AND UNAMBIGUOUS MESSAGES BECAUSE THEY FAIL TO DISTINGUISH BETWEEN MESSAGE CONTENTS AND INTENDED MEANING. IF PRESCHOOLERS ARE COGNITIVELY INCLINED TO "READ OFF" MESSAGE CONTENTS AND DO NOT CONSIDER THE SENDER'S CONTEXT OF MEANING, THEIR INTERPRETATIONS OF CONTRADICTORY COMMUNICATIONS SHOULD BE CONTENT SPECIFIC. OLDER CHILDREN, IN CONTRAST, SHOULD BE ABLE TO MAKE USE OF CONTEXTUAL INFORMATION FROM WHICH THE SENDER'S MEANING MAY BE DERIVED.

SUBJECTS AND SCREENING TASK

SUBJECTS WERE CHOSEN FOR INCLUSION BASED ON THE OUTCOME OF A SCREENING TASK THAT DETERMINED THEIR ABILITIY TO DISCRIMINATE BETWEEN CONTRADICTORY AND NON-CONTRADICTORY MESSAGES. FOR THE SCREENING TASK, THEY VIEWED A VIDEOTAPE COMPOSED OF EIGHT BRIEF EPISODES OF A MALE ACTOR DRINKING JUICE AND GIVING VERBAL AND FACIAL MESSAGES ABOUT HOW THE JUICE TASTED. IN HALF THE EPISODES, HIS VERBAL AND FACIAL MESSAGES WERE CONGRUENT; IN THE OTHER HALF THEY WERE CONTRADICTORY. MESSAGE APPRAISAL (IE. JUDGEMENTS ABOUT WHETHER THE COMMUNICATION WAS "SILLY" OR "NOT SILLY") AND REACTION TIME MEASURES IDENTIFIED GROUPS OF SUBJECTS WHO NOTICED A DIFFERENCE BETWEEN CONTRADICTORY AND CONGRUENT COMMUNICATIONS. THE SUBJECTS IDENTIFIED BY THE MESSAGE APPRAISAL MEASURE WERE 10 PRESCHOOLERS, 23 GRADE SCHOOLERS, AND 24 ADOLESCENTS-ADULTS. AN ADDITIONAL 14 PRESCHOOLERS AND ONE GRADE SCHOOLER WHO WERE UNABLE TO APPROPRIATELY APPRAISE THE COMMUNICATIONS, WERE FOUND CAPABLE OF DISCRIMINATION BASED ON THEIR DIFFERENTIAL REACTION TIMES. THUS, OF A TOTAL 75 SUBJECTS SCREENED, THREE PRESCHOOLERS WERE EXCLUDED FROM THE STUDY FOR FAILING TO DISCRIMINATE BETWEEN CONTRADICTORY AND CONGRUENT COMMUNICATIONS.

A TOTAL OF 72 SUBJECTS PARTICIPATED IN THE STUDY, INCLUDING 24 PRESCHOOLERS (MEAN AGE 4.9 YEARS), 24 GRADE SCHOOLERS (MEAN AGE 8.9 YEARS), AND 24 ADOLSECENTS-ADULTS (12 SIXTH GRADERS AND 12 UNIVERSITY STUDENTS).

MATERIALS AND PROCEDURE

TWO 8 MM FILMS WERE CONSTRUCTED IN WHICH CHARACTERS WERE SHOWN COMMUNICATING CONTRADICTORY VERBAL-FACIAL MESSAGES IN NO-CONTEXT AND CONTEXT CONDITIONS. IN THE NO-CONTEXT CONDITIONS, THE FILMS SHOWED A CLOSE-UP OF A CHARACTER'S FACE COMMUNICATING A CONTRADICTORY MESSAGE; IN THE CONTEXT CONDITIONS, A CHARACTER WAS SHOWN AS A PART OF A NARRATED MINI-STORY THAT PROVIDED MEANINGFUL INFORMATION REGARDING THE OCCURRENCE OF THE MESSAGE. SPECIFICALLY, FILM A SHOWED A CLOSE-UP OF A MAN WHO SMILED AND SAID, "YOU'VE BEEN BAD". THIS EPISODE WAS FOLLOWED BY THE CONTEXT CONDITION: A GIRL WHO RECEIVED A DISAPPOINTING GIFT FROM HER AUNT FROWNED WHILE TELLING THE AUNT, "I REALLY LIKE IT". FILM B BEGAN WITH A CLOSE-UP OF A GIRL WHO FROWNED AND SAID, "I REALLY LIKE IT", AND FOLLOWED WITH AN EPISODE IN WHICH A FATHER SMILED WHILE SAYING, "YOU'VE BEEN BAD", TO HIS DAUGHTER WHO HAD BOTH MESSED UP THE KITCHEN AND MADE HIM A NICE BREAKFAST.

HALF OF THE SUBJECTS OF EACH AGE GROUP (RANDOMLY ASSIGNED) SAW FILM A, AND THE OTHER HALF SAW FILM B. AFTER VIEWING THE NO-CONTEXT EPISODE, THE FILM WAS STOPPED AND THE SUBJECTS WERE ASKED A PREDETERMINED SEQUENCE OF QUESTIONS TO TEST THEIR UNDERSTANDING OF THE MESSAGE. AFTER RESPONDING, THE SUBJECTS WERE SHOWN THE CONTEXT EPISODE AND THE QUESTIONING SEQUENCE WAS REPEATED.

RESULTS

THE CHI SQUARE PROCEDURE SHOWED SIGNIFICANT EFFECTS FOR CONDITION ($\chi^2(2) = 18.79$, $p < .001$), AND FOR AGE IN BOTH NO-CONTEXT AND CONTEXT CONDITIONS ($\chi^2(4) = 15.24$, $p < .05$, AND $\chi^2(4) = 32.6$, $p < .001$, RESPECTIVELY). IN THE NO-CONTEXT CONDITION, POST HOC CONTRASTS BETWEEN AGE GROUPS FOR EACH LEVEL INDICATED THAT MORE PRESCHOOLERS USED CONTENT TRANSFORMATIONS RELATIVE TO THE OTHER GROUPS, $\chi^2(1) = 7.11$, $p < .01$; NO GROUP DIFFERENCES WERE FOUND FOR THE USE OF REFERENT TRANSFORMATIONS; MORE GRADE SCHOOLERS AND ADOLESCENT-ADULTS USED RELATIONAL TRANSFORMATIONS COMPARED TO PRESCHOOLERS, $\chi^2(1) = 4.48$, $p < .05$, AND $\chi^2(1) = 9.0$, $p < .01$, RESPECTIVELY. NO DIFFERENCES WERE FOUND BETWEEN THE MIDDLE AND OLDEST GROUPS.

IN THE CONTEXT CONDITION, NO AGE DIFFERENCES WERE FOUND FOR THE USE OF CONTENT TRANSFORMATIONS, BUT ALL AGE GROUPS DIFFERED IN THE USE OF REFERENT AND RELATIONAL TRANSFORMATIONS: MORE PRESCHOOLERS USED REFERENT TRANSFORMATIONS COMPARED TO GRADE SCHOOLERS, $\chi^2(1) = 4.75$, $p < .05$, AND MORE GRADE SCHOOLERS USED REFERENT TRANSFORMATIONS COMPARED TO THE OLDEST GROUP, $\chi^2(1) = 9.38$, $p < .01$. IN CONTRAST, SUBJECTS IN THE OLDEST GROUP USED RELATIONAL TRANSFORMATIONS MORE OFTEN THAN DID THE GRADE SCHOOLERS, $\chi^2(1) = 7.38$, $p < .01$, AND GRADE SCHOOLERS USED RELATIONAL TRANSFORMATIONS MORE OFTEN THAN DID THE PRESCHOOLERS, $\chi^2(1) = 11.11$, $p < .001$.

TABLE 1

INTERPRETIVE LEVEL AS A FUNCTION OF AGE AND CONDITION

	INTERPRETIVE LEVEL		
AGE	CONTENT	REFERENT	RELATIONAL
	NO CONTEXT		
PRESCHOOL	10	14	0
GRADE SCHOOL	2	18	4
ADOLESCENT-ADULT	2	16	6
	CONTEXT		
PRESCHOOL	3	20	1
GRADE SCHOOL	0	13	11
ADOLESCENT-ADULT	1	3	20

CONCLUSIONS

INTERPRETIVE LEVELS WERE RAISED FOR ALL AGE GROUPS IN THE CONTEXT CONDITION. HOWEVER, REFERENT TRANSFORMATIONS REPRESENTED THE UPPER LIMITS OF THE PRESCHOOLER'S ABILITY TO REASON ABOUT CONTRADICOTRY MESSAGES. THIS SUGGESTS THAT PRESCHOOLERS ASSUME A DIRECT CORRESPONDENCE BETWEEN MESSAGE CONTENTS AND REFERENTS. INTERPRETATIONS THUS INVOLVED NEGATING MESSAGE CONTENTS (LEVEL 1), OR NEGATING REFERENTIAL IMPLICATIONS (LEVEL 2). ALTHOUGH PRESCHOOLERS WERE ABLE TO BRACKET TOGETHER TWO OPPOSING SOURCES OF INFORMATION, THEY WERE UNABLE TO SUBORDINATE MESSAGE COMPONENTS AND REFERENTS TO A GLOBAL COMMUNICATIVE CONTEXT.

CHILDREN'S KNOWLEDGE OF ACTIONS AS DISTINCT FROM MEANINGS AND INTENTIONS IS RELEVANT BEYOND THE DOMAIN OF COMMUNICATION. WORK IN OTHER AREAS SUGGESTS THAT THIS ABILITY ENTERS INTO CHILDREN'S UNDERSTANDING THAT THEY MAY SIMULTANEOUSLY EXPERIENCE DIFFERENT EMOTIONS (HARTER & BUDDIN, 1983), THAT A SINGLE ACT MAY BE MULTIPLY DETERMINED (ERWIN & KUHN, 1979), AND THAT A SINGLE EVENT MAY PROVOKE DIFFERENT EMOTIONAL STATES (HARRIS, 1983).

IN ADDITION TO DISTILLING COMMON DEVELOPMENTAL PROCESSES FROM DIFFERENT COGNITIVE DOMAINS, A FULL UNDERSTANDING OF DEVELOPING COGNITION REQUIRES CAREFUL EXAMINATION OF THE CONTEXT IN WHICH THE CHILD IS ACTING. THIS STUDY ILLUSTRATES THAT INTERPRETIVE CAPACITIES WILL BE UNDERESTIMATED WHEN CONCLUSIONS ARE DRAWN FROM CONTEXTUALLY IMPOVERISHED COMMUNICATIONS.